ARTIST WILL H. LOW DESIGNING A NEW GREENBACK.

THIS MAN MAKES MONEY AND BONDS.

Artist Will H. Low Has Drawn a Design for a Dollar Greenback Which Will Be Notable for Its Pictorial Excellence.

Mr. Will H. Low, the well-known artist, is literally making money for Uncle Sam. He is the designer of the new money that will be issued within a few months.

The making of the design is with him the work of months, without considering the final engraving of the bill by the Treasury.

Mr. Low gets his commission from the Art Department of the United States Treasury. He is engaged by the job, and has to get up a bill of such and such denomination after an original design. No limit of time is set, but he must finish the job as soon as he can. The design takes the longest time. Mr. Low is a New York man, and does his work in his studio in this city.

With a piece of drawing paper before him, two feet by one foot, or as large as a good-sized writing pad, the man who makes the money for the Treasury goes to work upon the bill. He thinks up allegorical figures, recalls historical sketches and finally repudiates all and invents a picture from his own head.

THE NEW ONE-DOLLAR BILL.

In the new one-dollar bill that is now being made in the Engraving Department of the Treasury the design is a figure design. The title is "History Instructing Youth." A female figure points to Youth, who stands beside her, representing the growth of the country. In the distance are the Washington Monument and the Capitol, and upon a slab at her feet is the Constitution of the United States.

The drawing for a bill takes three months, if the artist works upon it industriously. Once Mr. Low, when rushed with outside work, did a design in two months, but he did not enjoy the work. Three or even four months is none too much time.

The bill is complete when it leaves his hands. It is like a mammoth note, and would deceive a color-blind person at a distance. The color is lacking. That is all. It is done in black and white, and when the engraving is made it is printed upon greenback Government paper and the seal is done in deep red. Many of the completed designs are in oil colors, done by the artist, and are exquisite works of art.

The fine lines that an artist must draw can be noted by studying a greenback. Every mark upon it must be made by his hand and made carefully. If there is a careless stroke the Treasury Department experts, who are very able and critical, will reject it, and the man who makes money will have to make it over again.

NOT VERY LUCRATIVE WORK.

The recompense for the designing of Government bills is very small. It is a great deal less than an able artist could earn at doing other kinds of work. In three months he could fresco a large wall or paint a picture for the Academy that would bring thousands. But the designing of bank notes is a matter of pride with every American artist, and he would rather do it at a paltry sum than paint pictures for a fortune. Unless necessity compels an artist to paint for a living, he will do bank notes whenever the Government shall commission him. The pay is sure and good, but it yields no such returns as great artists get for their paintings.

It is only a few years since that great artists began designing bank notes and United States bonds. Formerly a good stock portrait would be made of a statesman, and this picture, embellished with new lettering and ornamented with small designs, would pass for the new designs after which the bank bills were printed.

The result of this cheap way of getting money made was that the money of the United States was a laughing stock among the foreign bank officials. Persons spending money do not notice the pictorial crudity of the design, but it is very noticeable when a really good piece of art work is placed upon our bills. Travellers consider the money of Spain the prettiest money they handle.

GETTING UP BONDS.

When there is a bond issue, as in the case of the popular loan, and bonds are issued in what may be called an emergency manner, without ceremony beyond the receiving of bids, the United States does not commonly order a special design for its bonds. The Treasury makes a selection from an old engraving, perhaps a picture of a statesman, and sets it in a new drawing, which, being properly lettered and ornamented, answers the purpose of an elaborate new design.

Few persons see Government bonds, and the Engraving Department, which is very economical in its management, considers the bond good enough for its limited circulation. With a greenback the case is different. A bill passes through many hands. Its average life is three years.

After the design for a new bill is completed it is sent to the Treasury for approval. It is discussed, examined critically, compared with previous drawings for bills, and finally sent back with the approval of the Treasury. The artist then finishes it up.

After the finished design has gone back from the artist to the Treasury the real work begins. The design must pass through the engraving process; and so carefully is this done and so magnificent is the finished die that it is a matter of months of work for the department. The new dollar bill has been fourteen months in the engravers' hands since it was completed by Mr. Low, and it is not yet in shape for circulation by the public. The care and time spent upon it will suggest the difficulty required to counterfeit a bill. So intricate and elaborate is the new bill that counterfeiting will be impossible.

As the work progresses a proof of the finished portion is sent to the artist who designed it. He notes the finished work carefully, and if there has been an accident in the engraving he notifies the Government Engraving Department, and the work is done over again. So it goes on until the bill is finished.

It is a noteworthy instance of the shrewdness of Uncle Sam's lieutenants that they never allow the artist to see more than a portion of the finished proof. The entire bill, reduced, engraved and printed, he never sees until it is a dollar bill like any other bill in his pocket.

As another instance of Uncle Sam's shrewdness, be it noted that no magazine, newspaper or individual is allowed to copy the design upon a bill in its completeness, and though Mr. Low showed the Journal reporter a copy of the original design of the bill, it could not be copied for printing with this article.

CAN'T COUNTERFEIT IT.

The Government theory is that if a plate were made for printing a bill in a newspaper it might accidentally fall into the hands of unscrupulous persons who might dispose of it to counterfeiters, who would pay a large sum of money for it.

The United States bonds that are exciting so much interest are turned off carefully in the Government Printing Office. Each one must be perfect. If one is blurred, or slighted, or printed crooked it is destroyed and another one printed in place of it. Each inch of the Government parchment and bank note paper must be accounted for, and if an extra piece is taken, either the blurred bond or a sharp record of it must be inserted to take the place of the additional piece of paper used. No one can trifle with bank note paper.

When the bonds and bills go to press, as printing them is called, the work of the artist is done. In the case of a bond issue the printing of the bond is very critical work. Each one is numbered, counted and watched by a staff of Treasury officials whose records are above suspicion. When the bonds are turned off they are tied in packages and given into the custody of a Treasury official, who, with an escort, takes them to the man who has bought them. He conducts them in person, as the Queen's crown is taken back to the Crown jewels.

A BAD BOTCH IN THE HARLEM SPEEDWAY

Public Scandal in the Building of Our Beautiful Drive Due to Haste and Ignorance.

The building of the Harlem River Speedway has furnished New Yorkers with another of the public scandals which have brought the metropolis into public contempt from time to time. Here is an undertaking of great public importance upon which the city has planned to spend nearly two million dollars. Yet before it is much more than half finished work must be stopped and an investigation ordered. The facts which the committee of experts have reported are of the kind which would make "Bill" Tweed roll over in his grave if he had ears to hear.

According to the opinions of Theodore Cooper, Professor W. H. Burr and J. J. R. Croes, experts who examined the work and recently reported to the Park Commissioners on its present deplorable condition and the causes thereof, the engineers who projected the work, the contractor who built a large part of it, and the city's inspectors who certified to its being properly built, are all guilty of incompetence or something worse.

The city engineers failed to discover and report a proper foundation upon which to build the retaining crib-work; the cribs were neither built nor filled according to the contract, while the Park Department inspectors did not enforce the provisions of the contract. As a result of this highly interesting state of affairs, the city will be called upon to pay an additional $100,000 or more than the work should have cost if it had been properly done, to say nothing of the delay of perhaps a year or more which will be entailed by the necessary repairs.

RECKLESS HASTE.

The expert committee ended its report to the Park Department with this statement: "In the course of their investigations into the defects of this work your committee have been so impressed with the main causes of the trouble that they feel they would fail in doing their full duty did they not plainly indicate them—namely, the undue haste and want of proper preparation in its inception."

Reckless haste has been the stumbling block, and never was the advice of "make haste slowly" more needed than by the engineers who prospected this Speedway work. The contract for the lower section of the big driveway allowed the contractor only 375 working days to complete his task, and set a severe penalty on each day's delay after this time had expired. This was lengthened somewhat by a supplementary contract, but the time allowed was not nearly enough to permit thorough and conscientious work. The contractor for the upper section of the work was allowed only 400 days, and this limit required almost as much reckless haste to avoid penalties as the other. As each day's delay after the limit carried a heavy fine, it was not unnatural that headlong haste would mark the work.

From its very inception this great municipal undertaking has been characterized by unrighteous hurry, and the present result was feared by the more conservative. After rushing through the law permitting the building of the roadway, the land was secured by a commission so hurriedly that after the work had been started it was discovered that the measurements were not right. The specifications called for a 100-foot roadway, and the city had acquired only exactly 100 feet of land. It was found that in one section where the driveway was cut out of the side of a hill the earth from the adjoining land would all slide down upon the driveway unless it were shored up, and an additional narrow strip of land had to be purchased and a retaining wall built to protect the city's work. This was the first mistake.

A BOTCH IN THE DREDGING.

Then the legislators up at Albany yielded to a general public demand for a second sidewalk, and the act authorizing the Speedway was amended and the contracts had to be altered. This added about $62,000 more to the cost.

Another serious error by the city engineers was soon after discovered. This was made when they estimated the amount of submarine dredging that was necessary, and the nature of the bottom that must be dredged. The bidders for the first contract accepted the engineers' estimates, and the last figures were 14 cents a cubic yard for the work.

When the second contract was let, those who compared them were scandalized by the fact that the same contractors were willing to do the other dredging at 6 or 8 cents a cubic yard. The explanation was simple. The engineers had reported a certain proportion of sand and mud to be dredged, and when the successful contractor came to dig out the stuff he found that it was almost entirely soft mud, and that there was an enormous profit in dredging at the figures he had secured from the city. Had the engineers made the proper tests and discovered the real nature of the river bed at the points to be dredged, they would have saved some thousands of dollars to the city in the cost of this part of the work.

These were only some of the preliminary errors of the Speedway which were brought about by the headlong haste of all interested, and the present difficulties encountered are the crowning discoveries of this monument of municipal folly. The committee of experts reported other shortcomings besides those they were ordered to investigate, and the general conclusion is that the finished work must be carefully gone over and properly repaired before any further progress is made toward the completion of the driveway. The defective subway and the sliding cribwork were the points that the Park Commissioners wanted investigated, but the committee discovered several other defects that were brought to light.

One of the big sewer culverts that crosses under the bed of the driveway is badly cracked and the masonry must be repaired at this point. Another omission in the specifications that has attracted the attention of Professor Burr and his associates is the lack of any provision for a protecting wall to support the sidewalk on the inner side in places where it is to be supported against the face of the rock up above the level of the road. Here is another instance of the failure of the contractors' specifications to cover the work necessary, while there are tons upon tons of rock overhanging the driveway in several places that must be cut away, the experts say, to make the new driveway safe.

The blame for the present deplorable state of the undertaking is placed by the experts largely upon the city engineers who drafted the specifications, in whose ignorance of the conditions under which the work was to be done they find the chief cause of all the trouble. In the case of the defective subway—which is, it should be explained, a tunnel under the roadway provided for the use of pedestrians who wish to cross from one sidewalk to the other—the cause of the great crack which has appeared in the masonry of the tunnel is the failure of the engineers and inspectors to enforce the specification of the contractor. The result has been that part of the stone wall has slid out toward the river several inches, and to repair the damage the experts recommend that the defective part of the wall and arch be torn down and rebuilt, and that two long anchor rods be put in to prevent a repetition of the sliding.

The most serious damage yet discovered in the roadway is the lack of stability of the cribwork, which acts as a retaining wall for the roadbed for a large part of its length. This has slid out toward the middle of the river in many places, the top being from three to eight feet out of line. It is not known how far out the bottom of the cribs has slid. The accompanying illustration from the photograph of the work shows the bulging of the cribs just below High Bridge.

Similar and even worse cases are seen at several other points of the work. The result has been that the rock and earth filled in between the cribs and the shore have sunk in many places, and it is doubtful whether they will not continue to sink from the action of the rains and the rising and falling of the tide. The cribs were not nearly large enough at their base for perfect stability, the experts say, and did not remain firmly imbedded in the mud after they had been sunk with broken rocks. The United States Government establishes a channel line in all navigable rivers like the Harlem, and the Speedway was planned to extend to its edge. The bulging has now encroached upon the Government channel, and it cannot stay there.

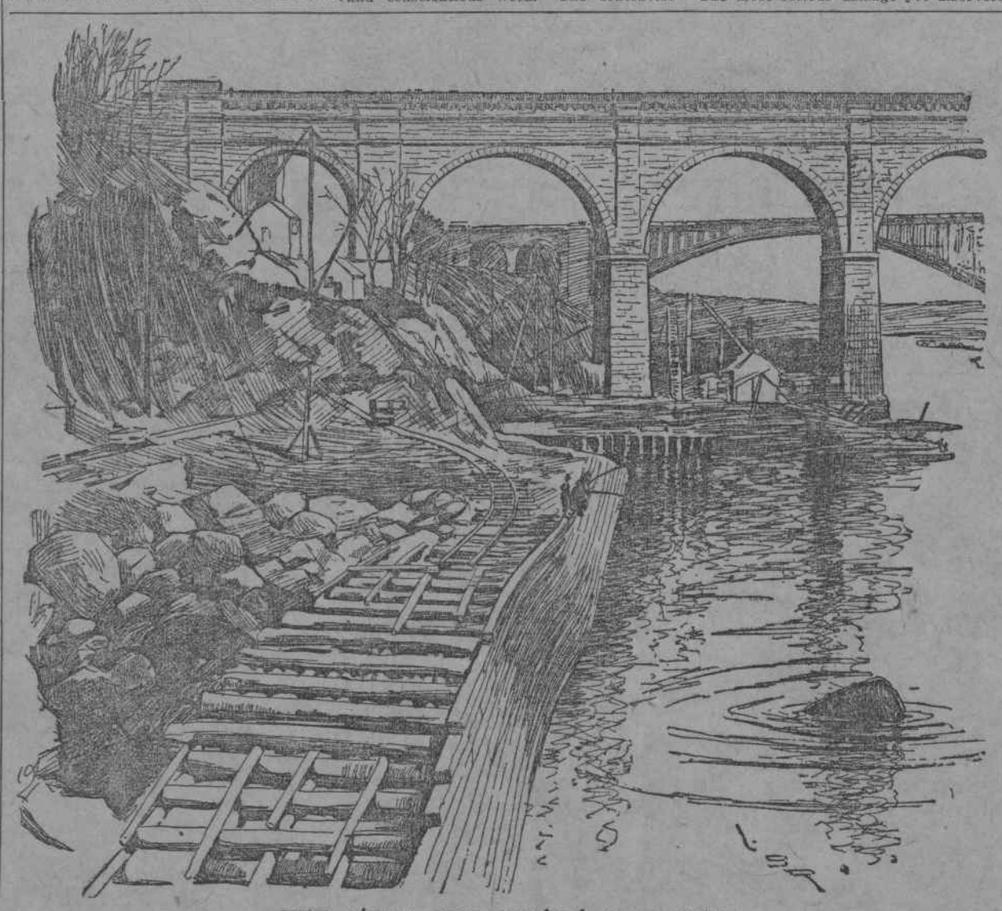
Again the committee exonerate the contractor and place the blame upon the city engineers. They report that the cost of building a stone retaining wall for the driveway makes that remedy prohibitory, and recommend that "so much of this section of cribwork as has slid out beyond the established bulkhead line should be removed to a depth of about eighteen feet below low water. The bottom thus formed should then be examined and carefully prepared by levelling with broken stone, if necessary, for founding a new crib on correct lines."

To correct the depressions in the roadbed where the holes have been caused by sinking, the committee recommend that the best remedy is "to strip the top of the present fill down to the rock filling, thoroughly fill all the lower voids with gravel and small stones, above which the spaces should be filled with stone fragments, gradually decreasing in size. Finally, this filling should be covered with a layer of gravel or gravelly earth, well compacted and from twelve to eighteen inches in thickness. No tentative method of filling from the top only will give any reasonable expectation of success."

Corporation Counsel Scott submitted a legal opinion to the Park Commissioners at their meeting last week, in which he places almost all of the responsibility for the defects discovered in the work upon the old Park Board and its agents. Contractor Leary cannot be held responsible, he says, for either the sliding of the cribs or the crack in the subway, for in the one case he has followed his specifications and in the other his only variations were authorized by the Park Board. As to the sunken road filling, however, he blames the contractor and says that Leary should be made to remove the defective filling and replace it according to specifications.

Another cause for delay on the Speedway work was brought to light last week by the report from Contractor Rogers, who is—or rather was—building the upper section of the work. Rogers says that he had to practically stop work last April because his specifications were incomplete. He had written five times to the old Park Board, he says, about the matter, but could not get any satisfaction. He is still waiting for the necessary specifications before he can proceed.

Whatever remedies are decided upon the expense and the delay will both be enormous, if indeed the final value of the roadway has not already been injured by the defects. The original date of opening was this Spring, but if the Speedway is in use a year from the intended time New Yorkers may consider themselves lucky.



THE NEW SPEEDWAY OUTRAGE.

BOGUS MAPLE SYRUP.

Here Is an Enterprising Citizen of Nebraska Who Has Found a Way to Make It Out of Corn Cobs.

The wooden nutmeg of Connecticut may or may not have existed, but there seems to be no doubt that an enterprising citizen of Marcus, Cherokee County, Neb., has discovered a process by which an imitation of Vermont maple syrup that cannot be detected is made from corn cobs. Time was when corn cobs were thrown on the compost heap.

Then the manufacturer of cob pipes gave what had been refuse a commercial value that in some seasons has exceeded the value of the grain itself. The Omaha Bee devotes considerable space to this newest development of the "industrial resources of our great State." The process is a jealously guarded secret, but a sufficient number of capitalists have been found to form a company to go into the manufacture of the new article, "samples of which are now in the hands of the leading confectioners and syrup jobbers of the country."

A YACHT BUILT BY BOYS.

The Young Shipbuilders Are New Yorkers, and Their Craft Is as Seaworthy as Could Be Constructed in Any Shipyard.

A number of bright New York boys have succeeded in building a thoroughly seaworthy schooner rigged yacht, 42 feet long, and in testing it by an actual sea voyage. These successful young mariners are city bred boys and the voyage they are taking is for many of them their first taste of life at sea.

The average age of these young salts is only a trifle over twenty-one years. Their experience in ship-building and sailing dates back for hardly more than three years at most. These young mariners have studied seamanship and all that implies in the Webb Home for Shipbuilding at Fordham Heights. This home, as all the world knows, was established for the purpose of providing a home for seamen in their old days and for giving a very thorough course of instruction both practical and theoretical to would-be sailors.

The boat these boys have built is their own work from stem to stern. First, the plan and working drawings were made with great care, for the young salts are expert draughtsmen. After the designs had been made and approved a quantity of rough lumber was procured and the work of construction begun in earnest. Of course it would have been easier to buy dressed lumber, but the embryo shipbuilders wanted to say they had literally built the ship themselves, without asking aid from any one.

For the first three months the school rooms resounded with the sound of saw and hammer. Then all the iron parts were either cast or wrought from rough bars of iron. When they were completed the entire force and talent of the class were mustered for the work of putting the boat together. The keel was laid at a convenient near the water and the ribs put in place. This part of the work occupied about three months.

The skeleton of the boat gradually increased in size until finally the young mariners looked proudly upon the complete hull.

The launching came next, and was a cause of great rejoicing at the time. Once in the water the work on the interior of the boat's cabin engrossed the boys for some weeks. The masts were then put in and the sails rigged upon them in the most approved fashion. The sails are also the creation of the youthful mariners.

The first important voyage of the boat which, in the boy's eyes was a work of art, was soon planned. The regular crew consisted of eight bright, sturdy young fellows, who lived aboard the boat long before she sailed. The regular watch was, of course, selected and required to serve just as on any ship. After the crew had become thoroughly familiar with their duties, the little craft started on its maiden cruise up the Hudson River to the Erie Canal and thence along the regular canal route to Lake Erie.

Here was the first real opportunity for a test of seamanship. The voyage across the lake of course took them far from land and considerable rough weather was encountered. The other end of the lake was reached however in safety, and excepting a little sea-sickness these city bred sailors were none the worse for their voyage.

The little vessel made her way safely through the St. Clair River and Lake St. Clair to the Detroit River, where anchor was cast near Belle Isle, Detroit's beautiful park.

Detroit was made the headquarters and a number of voyages were made from this point about Lake Michigan, and even up through the Sault Ste. Marie to Lake Superior were enjoyed. When the present Winter set in the boat returned to Detroit.

The young sailors are now busy in planning a still more ambitious voyage next Spring. They will return to New York and proceed to explore the Atlantic coast to the southernmost tip of Florida.

LIGHTING A BUOY.

Here Is an Electric Apparatus Attached to a Life Belt, Which May Aid in Saving Life at Night.

A life-saving buoy, which, when thrown overboard displays an incandescent electric light, standing well up from the surface of the water, is the latest in the line of life-saving appliances. The light is furnished by a small storage battery.

As the buoy reaches the water the battery swings into a perpendicular position, and the light is also put in action. A man overboard at night has a remote chance of seeing a floating buoy, but with one of this character he is at once directed to the point of rescue.

NEW SOLES FOR SHOES.

How Asbestos Is Now Pressed to Make Waterproof Soles That Also Keep Out Heat and Cold

The latest thing in the line of soles for shoes—the invention, probably, of a health crank—is made of asbestos wool pressed into thin sheets by hydraulic pressure. It is used for the middle soles of boots.

The asbestos sheets are rendered waterproof on one side by the application of a special solution. It is claimed that this combination of non-conducting and waterproof material is equal protection from heat, cold or moisture.

Nature's Freak Radishes.

Shaped Like an Angel, a Human Head, a Hand, a Heart and a Foot.

FROM A JERSEY WINDOW GARDEN.

Mrs. Welby, of Essex County, N. J., has raised a new kind of radish. These radishes are of a variety of shapes, the most striking ones being those that resemble an angel, a man's head and a human foot.

In the early part of the Winter Mrs. Welby determined to raise some house vegetables. So she made several long boxes to fit the window recesses and filled them with rich loam. She then planted the seeds, in one box putting lettuce, in another parsley, and in the third she planted radishes. The boxes were placed in the windows on the south side of the house, where the sun would be on them for about six or seven hours a day.

Every day the tiny plants were watered regularly, each weed that dared show its head being uprooted to give the vegetables a chance to "come along." As time passed they grew larger and stronger, till at length they were ready to be eaten. About two weeks ago Mrs. Welby, thinking she would give her husband a treat, picked a couple of the heads of lettuce and some radishes for his dinner.

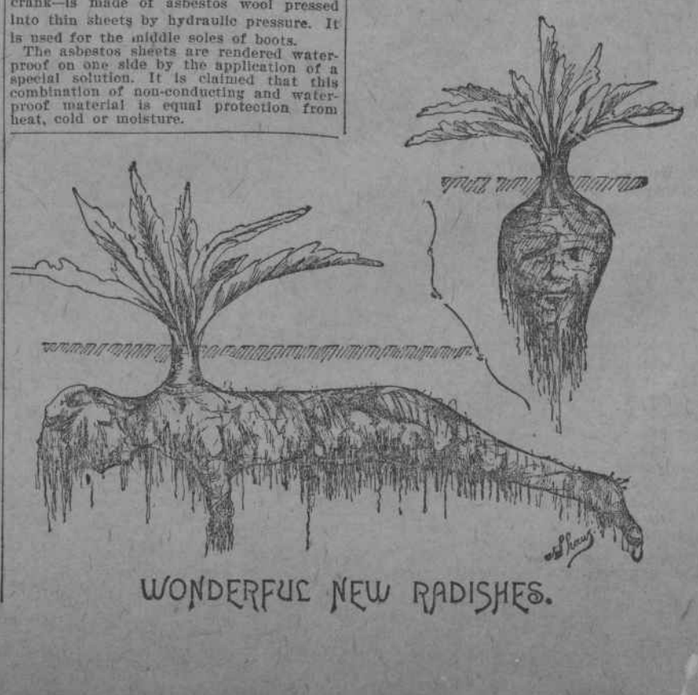
What was her amazement, on taking up the first radish, to find that it was shaped like a human foot! It was about two inches in length, each part being almost perfectly formed, even down to the markings on the soles and the toe nails.

Mrs. Welby pulled up a second radish. To her surprise, this was even more peculiar than the first, being shaped like a man's head, each feature being accurately marked—eyes, nose, mouth and ears—all perfect in shape and position. The hair was formed of the green tops of the radish, giving it a very ludicrous appearance. So it went on, each radish bearing resemblance to some part of the human figure—one being like a heart, another like a hand, etc.

But the most wonderful of all was the last, which had the figure of an angel or a cherub. This radish was an exceedingly large one, being 2½ to 3 inches long, and it grew in a part of the box where the earth was only about 2 inches deep. In consequence of this, it had to grow lengthwise, which it did, and took a most amazing shape. The figure lay face down in the soil, the toes and fingers lengthening into long, fine roots and the green leaves growing from the location of the shoulder blades and looking for all the world like wings.

The seeds from which these wonderful plants grew appear to be like ordinary seeds, except that they are covered with minute white spots, which, under the microscope, seem to be placed in regular order on the surface of the seed. Mrs. Welby obtained them from a friend in California, who wrote her that the radishes they produced were of a "very large size, high tasting and of a new style."

Mrs. Welby has received many applications for these strange seeds and has distributed a large number of them among her neighbors. He has had plaster casts taken of the radishes, and these she has presented to the town museum, keeping the originals in alcohol herself.



WONDERFUL NEW RADISHES.

LOBSTERS ARE CANNIBALS.

In Their Infancy They Will Eagerly Devour One Another If the Slightest Opportunity Offers.

One hundred millions of baby lobsters will be hatched artificially by the United States Fish Commission during the coming Summer. That number would be sufficient to make lobsters as plenty and cheap as they ever were, if only they could all grow up. Unfortunately, many difficulties interfere with their propagation by the incubator plan. It is easy enough to hatch them, so far as that goes.

The eggs are obtained from fishermen, who bring the female lobsters to the Government station at Wood's Holl, Mass. One fair-sized lobster will yield 40,000 eggs. They are scraped gently from her body and put into a glass jar through which water circulates. In the course of a few days the baby lobsters come out, looking like so many little bits of shrimps.

An infant lobster looks not at all like the adult specimen. The latter walks about on the bottom of the sea, but its juvenile offspring swims near the surface of the water for the first few weeks of its life. It is almost sure to be gobbled by a fish or by some predatory mollusk or crustacean. If so lucky as to escape these dangers, it goes through a series of molts. Each time it changes its shell it looks a trifle more like a real lobster, until finally at the end of the seventh week or thereabouts it assumes the adult form and gives up swimming. Being clad in armor, it has few enemies to fear from that time on, while it finds concealment among rocks on the bottom. Thenceforward the enemy most to be dreaded is greedy man, who tries to lure it into baited pots that are easy to get into and hard to get out of.

For a long time the Government experts have been puzzling over a problem which remains to this day unsolved. They could soon cause the waters along the Atlantic coast to swarm with lobsters if only they could discover a way of rearing those artificially hatched until they are seven weeks old and arrived at the adult stage.

But lobsters are by nature cannibals, and the young ones eat each other up. It is hardly practicable to provide a separate compartment for each adolescent lobster. Consequently, when they are a few days old they are put into the ocean to take their extremely small chances of survival. During the few days preceding their liberation they are fed on tow stuff. This tow stuff consists of small crustaceans and other animals collected by towing a net of fine gauze from a boat along the surface of the sea.